

Workshop Proposal Form PEDSTC2018

AMIRKABIR UNIVERSITY OF TECHNOLOGY
(TEHRAN POLYTECHNIC)



Title of workshop:

Photovoltaics- Using PVSYST for Grid-Connected Systems

4-Hour Workshop

Lecturer

Full Name: Aref Eskandary

Email: skandary.aref69@gmail.com

Mobile: 09119096433

Affiliation: Electrical Engineering Department, Amirkabir University of Technology, Tehran, Iran.

Biography: received the B.Sc. degree in power engineering from Babol Noshirvani University of Technology and the M.Sc. degree from Sharif University of Technology, Tehran in 2013 and 2015, respectively. He is currently working toward the PHD degree in electrical engineering in Amirkabir University of Technology. His research interests include reliability in power electronic converters, photovoltaic, and renewable energy systems.

Main topics:

- Understanding the effect of solar irradiation on PV production.
- Understanding the PV module modeling (one diode model) for any technology.
- Characterizing the components of a PV system, and its modeling implementation in PVsyst.
- Using the program PVsyst for the design and optimization of grid-connected PV systems.
- Analyze system layout and shading issues.
- Establish economic balances.

Description:

Given future scenarios, renewable energy sources, in particular photovoltaic technology, will develop quickly. This has to be done in a sustainable way using the best technical economical solutions. It is essential to develop PV technology in an optimal and reliable way. Pursuing this objective, the PVsyst software is a tool that allows its user to accurately analyze different configurations and to evaluate the results and identify the best possible solution. This software is geared to the needs of architects, engineers, researchers. It is also very helpful for educational training.

Minimum and maximum expected number of participants: Min: 10, Max: 20

 (+98) 2164543307
(+98) 9300010342

 PEDSTC2018@aut.ac.ir

 www.pedstc2018.aut.ac.ir

 <https://t.me/PEDSTC2018>

 9th Floor of Abureyhan Building, 424 Hafez Ave, Tehran, Iran, 15875-4413.

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Why your topic is interesting for participants:

The PVsyst software uses extensive knowledge of PV technology, meteorological irradiation resources and PV components. However, it cannot replace the user's expertise. It is a tool that facilitates the acquisition of a deeper understanding PV systems and the optimization of their design. This training, therefore, includes an important section about theoretical concepts.

What background participants should have ?

- Good knowledge in electricity,
- Basic knowledge of PV system design and available technology,
- Basic knowledge of PV module and array electrical behavior,
- Basic knowledge of inverters and their operation,

(Participants should bring a laptop that runs under Windows and with the latest version of PVsyst installed)

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